*FINAL*

# CLEAN AIR ACT SECTION 112(r) INSPECTION REPORT
## *Allens, Inc. Plant #21*
## *Brockport, NY*

## GENERAL INFORMATION

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| **Stationary Source** | Allens, Inc. Plant #21 |
| **Date of Inspection** | November 19, 2009 |
| **USEPA Inspector** | Francesco Maimone – USEPA, REGION II (Edison, NJ) |
| **Contract Auditor** | Neil Mulvey, Sullivan Group (Subcontractor) |
| **Description of Activities** | • Opening meeting with facility representative.<br>• Program audit.<br>• Closing meeting with facility representatives.<br>Program audit consisted of the following activities:<br>1. Document review.<br>2. Field verification.<br>3. Personnel interviews |

## STATIONARY SOURCE INFORMATION

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| **EPA Facility ID #** | 1000 0004 0993 |
| **Date of Latest Submission (used for RMP inspection)** | Receipt Date: June 17, 2009 (Re-submission)<br><br>Anniversary Date: June 17, 2014 |
| **Facility Location** | 180 State Street<br>Brockport, NY 14420<br>Monroe County<br><br>Tel. (585) 637 -3154 |
| **Number of Employees** | *RMP*Submit* states 281 employees (per RMP registration). Facility management reported a total of 270 employees on-site. |

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| **Description of Surrounding Area** | The facility is located on approximately 13-acres in a residential / commercial area. Commercial properties border the facility immediately to the east and south. The Erie Canal is located approximately 650-feet to the north. A residential community borders the facility immediately to the west. Several residences are located less than 100-feet from the facility property line. |
| **Participants** | Participants included representatives from:<br><br>Francesco Maimone, USEPA – Region II, Edison, NJ<br>Neil Mulvey, USEPA Contractor<br>Rick Andrews, Maintenance Manager – Allens, Inc.*<br>Jeff Clark, Regional / Facility Manager – Allens, Inc.<br>Mike Gatlin, Director Safety and Security – Allens, Inc. (Corporate)<br>Michael Miller, Refrigeration Supervisor – Allens, Inc.<br>Laura Mushinski, Director Environmental Quality – Allens, Inc. (Corporate)<br>Susan Poole, Environmental Coordinator / Maintenance – Allens, Inc.<br>James Riddle, Production Supervisor – Allens, Inc. (Oakfield, NY Facility)<br><br>* Lead representative for Allens, Inc. |

# REGISTRATION INFORMATION

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| **Process ID #** | 1000004261 - Refrigeration |
| **Program Level (as reported in RMP)** | Program 3 |
| **Process Chemicals** | Anhydrous Ammonia @ 35,000 -lbs. |
| **NAICS Code** | 49312 (Refrigerated Warehousing and Storage) |

# GENERAL COMMENTS

The Brockport facility refrigeration system was first installed in about 1923. The oldest building on-site was constructed in 1870, with the newest building constructed in 1988. The facility has had several owners and undergone several name changes over the years. The facility was purchased by Allens, Inc. in December 2006.

The facility is a food cold storage warehouse and distribution plant. Storage includes freezers as well as other temperature controlled warehouse space (temperatures from 35 – 42 deg.F) Operations include re-packaging from large (1,400-lbs. tote boxes) to smaller containers (ranging from 8-ounce containers to 40-lbs. cases). There is no food production at this location. Operations are conducted from several inter-connected or closely located buildings. Typically the facility operates three 8-hour shifts, five to six-days per week.

Refrigeration equipment includes:

- Compressors (two stage system)
- Condensers
- High Pressure Receiver
- Evaporators
- Low Pressure Vessels
- Ammonia liquid supply piping
- Ammonia vapor return piping

Ammonia detectors installed in the engine room are monitored 24-hours a day, 7-days a week, 365-days a year by an off-site alarm company. The ammonia detectors are designed to automatically activate emergency ventilation in the engine room in the event of an ammonia leak (setpoint is 50 PPM). Continuous ventilation in the engine room includes fan failure alarms.

The Maintenance Manager has overall responsibility for operation and maintenance of the ammonia refrigeration system. Reporting to the Maintenance Manager is a Maintenance Supervisor and three refrigeration mechanics. The refrigeration system operates 24-hours a day, 7-days a week, 365-days a year. Facility management reported that there are no trained refrigeration system operators at the site during off-shift (i.e., trained refrigeration personnel on-site only during day shift). Facility emergency responders, however, are notified of ammonia releases during after-hours through an automated call-down list. This call-down list, linked to the facility's central station alarm, also includes notification to local authorities.

# RMP DOCUMENTATION

RMP program documentation existed in several binders, folders, files, and other documents. Facility management demonstrated an excellent understanding of RMP program requirements as well as the facility's implementation of specific RMP programs and procedures. When requested, RMP information and documentation was readily available for review.

## Registration

The facility's most recent Risk Management Plan, submitted on June 17, 2009, contained adequate registration information.

**Management System [*40 CFR 68.15*]**

The facility's Facility Manager is responsible for the overall implementation of the Risk Management Plan.

**Hazard Assessment [*40 CFR 68.22 – 68.39*]**

The facility has performed appropriate Worst Case (WC) and Alternate Case (AC) scenarios. The facility used EPA's *Appendix E: Supplemental Risk Management Program Guidance for Ammonia Systems* document in order to determine the distance-to-endpoint estimates under the WC and AC scenarios. Specifically, tables E-2 and E-3 of this document were used to determine the distance-to-endpoint estimates for the WC and AC scenarios, respectively. These tables contain the appropriate release temperatures, atmospheric stability class, and wind speeds appropriate for each scenario. The facility has adequately determined the surface roughness for each scenario to be "urban". The facility has also confirmed table E-2 and E-3 data in the RMP Comp program.

The facility used Landview 2000 software, which contains the most recent 2000 Census data, to determine potentially impacted population sizes within each distance-to-endpoint. Additionally, the facility maintains a list of local environmental and public receptors.

**Five-Year Accident History [*40 CFR 68.42*]**

The facility has not had any accidental releases from covered processes that resulted in deaths, injuries, or significant property damage on site, or known offsite deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage.

OSHA safety logs were reviewed from 2005 until the date of inspection; all reported accidents were not related to the ammonia process.

**Process Safety Information (PSI) [*40 CFR 68.65*]**

PSI information available for review included:

- MSDS – anhydrous ammonia
- Block flow diagram
- Piping and instrument diagrams (P&IDs)
- Ventilation design calculations for engine room vs. code requirements (IIAR Bulletin 111 and ASHRAE-2)
- Maximum ammonia inventory
- Safe upper and lower operating limits
- Design codes and standards employed
- Safety system description

The P&IDs were complete and detailed. Documentation included instrument numbers, design information, line sizes, line labeling and ammonia inventories in individual

equipment components. Spot field checks of P&IDs vs. field installation confirmed that the P&IDs were representative of the actual system configuration. Equipment identified on the P&IDs was also similarly labeled in process areas. Written standard operating procedures reference equipment labels.

**Process Hazard Analysis (PHA) [*40 CFR 68.67*]**

The initial PHA was conducted during three sessions on September 26 – 28, 1994. A complete PHA report dated October 1994 is available for review. The PHA was facilitated by an outside consultant. The What-If/Checklist method was used. Team members included Brockport facility personnel, including system operators, knowledgeable in the operation and maintenance of the refrigeration system. Study documentation included:

- What-If/Checklist question
- Consequences
- Safeguards
- Recommendations

The September 1994 PHA was complete and thorough. Spot checks on the status of PHA recommendations marked as 'complete' verified that they were in fact completed.

The first PHA revalidation, conducted on January 10, 2000, consisted of a note on the cover page of the 1994 PHA report stating that a team had reviewed the 1994 study and concluded that it was "OK." This revalidation did include a checklist review of a new recirculator added to the system. Upon further discussion, facility management explained that they believed the PHA revalidation was also addressed as part of PSM/RMP Audits conducted on 5/3/04 and 1/28/08. Neither the 1/10/00 PHA revalidation or the Audits constitute a PHA revalidation.

**Standard Operating Procedures (SOPs) [*40 CFR 68.69*]**

The facility maintains a comprehensive set of written operating procedures. The written procedures address:

- Normal operations
- Equipment start-up
- Equipment shutdown
- General safety
- Ammonia system upper limits
- System charging
- Oil draining

In addition, there are numerous written procedures for various maintenance activities.

The written procedures are complete and comprehensive and include detailed step-by-step instructions on equipment operation. A spot check of the "Refrigeration System Emergency Shutdown Procedure" and "Refrigeration System Oil Draining Procedure" verified that equipment as identified in the procedures was consistent with equipment labels in the field as well as with the P&IDs.

The most recent annual certification was completed on 8/20/09.

**Training [*40 CFR 68.71*]**

Facility personnel involved with the ammonia process receive extensive training on ammonia technology. Refrigeration mechanics obtain training from in-house programs, university short courses, ammonia contractors, equipment manufacturers, and professional organizations. Refrigeration mechanics are also licensed as refrigeration operators.

Facility personnel are offered a wide variety of training on ammonia operations, safety, and emergency response. For example, facility personnel are actively involved in annual ammonia training, the ammonia maintenance team receives extensive ammonia safety training every three years, and additional safety training, which includes portions on ammonia safety, is attempted every third Saturday. Additionally, facility personnel involved in HAZMAT response are given a 24-hour initial training, an 8-hour HAZMAT refresher course each year thereafter, and participate in annual mock emergency response drills with the local fire, police, emergency medical service, and county HAZMAT.

Although the facility has an extensive training program, initial training records for facility personnel involved in ammonia operations were not available for review. Additionally, the facility has not provided a certification that each employee operating process equipment prior to June 21, 1999 has the knowledge, skills, and abilities to safely carry out duties and responsibilities provided in standard operating procedures.

**Mechanical Integrity [*40 CFR 68.73*]**

The mechanical integrity program includes daily, weekly, monthly, semi-annually, and annual inspections and test of refrigeration equipment.

The facility maintains manual checklist documentation of completed inspections. Records include identification of the person completing the inspection and the year or month of the inspection. The record however does not include the date of inspection (except for daily inspections which are dated).

As noted above, written procedures exist for various maintenance activities.

Mechanical integrity records include a detailed list of pressure relief valves (PRVs) showing location of valve, ID#, model, year installed, and last date replaced, including

name of maintenance person doing replacement. All PRVs have been replaced on a five-year schedule, per industry standard.

Ammonia detectors are scheduled for annual replacement, however there was no record available to confirm the annual replacement.

**Management of Change (MOC) [*40 CFR 68.75*] & Pre-Startup Review (PSR) [*40 CFR 68.77*]**

The facility maintains extensive MOC and PSR records. MOCs were available for review since October 7, 1998. The two most recent MOC projects, projects 11 and 12, were reviewed for content. These MOCs included a safety review with ANSI, IIAR, and ASHRAE standards, update of standard operating procedures, training, and sections for remarks, recommendations, and additional comments. These MOCs included appropriate signatures, team review, and inclusion of welding contractor certifications.

**Compliance Audits [*40 CFR 68.79*]**

The two most recent RMP compliance audits were completed on 1/28/08 and 5/5/04. It is noted that the 1/28/08 audit was done eight months later than three-years after the 5/5/04 audit. Complete reports of these two audits were on file for review and included:

- List of audit team members (included Maintenance Manager, Supervisor and Refrigeration Mechanics)
- PSM/RMP audit checklist
- List of audit recommendations

**Incident Investigation [*40 CFR 68.81*]**

Within the last five years, there have been no catastrophic releases or near-miss events that could have reasonably resulted in a catastrophic release of ammonia.

The facility, however, does have incident investigation procedures that meet the requirements of 40 CFR 68.81. For example, the facility maintained an incident investigation report resulting from a near-miss that occurred on October 24, 2002. The incident investigation was performed within 24-hours of the near-miss event, and resulted in a root cause analysis, construction of engineering controls, discussion in a safety meeting, and re-training of forklift operators.

**Employee Participation [*40 CFR 68.83*]**

The facility has a written employee participation program. Facility management and supervisors actively involve employees in decisions regarding the ammonia process, as evidenced by the extensive training received by personnel, as referenced in the "Training" section of this report.

Facility personnel have access to safety information through Rick Andrews, facility Maintenance Manager. Mr. Andrews is actively involved in ammonia process and safety operations, and serves as a contact person for ammonia process operators.

**Hot Work Permit [*40 CFR 68.85*]**

The facility has extensive hot work permit procedures. These procedures were last revised on June 17, 2008. The facility's hot work permit procedures were extensive, and specifically identify equipment on which hot work is performed. Several hot work permits were available for review.

Facility employees are also trained on Hot Work Permit awareness, and are given a test to demonstrate sufficient student learning. All contractors performing hot work at or near the ammonia process are accompanied by a facility employee who is knowledgeable in the ammonia process and facility operations. The facility retains the services of Mollenberg-Betz Inc. to perform hot work on the ammonia refrigeration system.

**Contractor Safety [*40 CFR 68.87*]**

The facility obtains and assesses the safety policy of contractors prior to selecting a contractor to perform work at or near the ammonia process. Specifically, the facility retains the safety records and safety manual of Mollenberg-Betz Inc., who serves as the facility's primary ammonia contractor.

All contractors performing work at the facility must view a safety video and review a twenty-eight page safety manual specific to the operations at the facility. Upon completion of the video and safety manual review, the contractor signs a "Contractor Safety Acknowledgement and Indemnification Form".

The performance of contractors is evaluated and documented through inspection by facility personnel, work certification by the contractor (i.e. work certification by Mollenberg-Betz Inc. observed), and photographs of welds not performed correctly.

**Emergency Response [*40 CFR 68.90 – 68.95*]**

The facility has an extensive emergency response program, and is a first responder. The facility performs annual mock emergency response exercises, and coordinates these exercises with local fire and police departments, the county HAZMAT team, and emergency medical services. The facility has also identified various scenarios and procedures that would require the assistance of various responders, and has an emergency action with public and emergency response agency notification procedures and first aid and medical treatment arrangements.

Additionally, an area of the facility, located away from the ammonia process, is dedicated as an Incident Command Center. Self-Contained Breathing Apparatuses (SCBAs) are stored in the Incident Command Center, and are inspected on a monthly basis.

**FACILITY TOUR**

Several items noted during the facility tour include:

- Ammonia refrigeration equipment, including piping and valves, are well labeled.

A significant quantity of ice was observed accumulating on the manual valve on the suction header for AHU#1 in the assembly penthouse. Ice accumulation increases the weight load on equipment, increasing potential for equipment damage. Additionally, severe ice accumulation prevents inspection of valves, piping, and instrumentation and limits access to equipment. IIAR Bulletin No. 109 (Minimum Safety Criteria for a Safe Ammonia Refrigeration System) states: *"Ice formations that could endanger refrigerant piping of other components should be removed and the condition(s) that cause the ice build-up corrected." (Section 4.10.7).* **The facility should improve defrost procedures or other operating practices to minimize the occurrence and quantity of ice accumulation, in accordance with good operating practices.**

**ACKNOWLEDGEMENTS**

The facility implemented thorough Management of Change/Pre-Startup Review procedures, and overall, excellent Mechanical Integrity, Process Safety Information records, and Incident Investigation records. Additionally, the wide array of ammonia and emergency response training was noted to be exceptional. EPA encourages that these extensive Risk Management Program implementation efforts continue.

# FINDINGS

**Process Hazard Analysis (PHA) [*40 CFR 68.67*]**

- The first PHA revalidation, conducted on January 10, 2000, consisted of a note on the cover page of the 1994 PHA report stating that a team had reviewed the 1994 study and concluded that it was "OK." This revalidation did include a checklist review of a new recirculator added to the system. Upon further discussion, facility management explained that they believed the PHA revalidation was also addressed as part of PSM/RMP Audits conducted on 5/3/04 and 1/28/08. Neither the 1/10/00 PHA revalidation or the Audits constitute a PHA revalidation. **The facility must conduct a PHA revalidation of the covered process, as required by 40 CFR 68.67(f).**

**Training [*40 CFR 68.71*]**

- An appropriate certification for each current ammonia process operator who was already working on the ammonia process on June 21, 1999 was not available on the day of inspection. **The facility must certify, in writing, that employees already operating a process on June 21, 1999 have the required knowledge, skills, and abilities to safety carry out duties and responsibilities provided in standard operating procedures, as required by 40 CFR 68.71(a)(2).**

- Although facility personnel receive extensive training, initial training records on process operations and standard operating procedures were not available for review on the day of inspection. **The facility must ascertain that each employee involved in operating a process has received and understood training required in 40 CFR 68.71, and shall prepare a record which contains the identity of the employee, the date of training, and the means used to verify that the employee understood the training, as required in 40 CFR 68.71(c).**

**Mechanical Integrity [*40 CFR 68.73*]**

- The facility maintains manual checklist documentation of completed inspections. Records include identification of person completing the inspection and the year or month of the inspection. The record however does not include the date of inspection (except for daily inspections which are dated). Ammonia detectors are scheduled for annual replacement, however there was no record available to confirm the annual replacement. **The facility should ensure that records of completed inspections and tests include the date of completion, as required by 40 CFR 68.73(d)(4).**

**Compliance Audits [*40 CFR 68.79*]**

- The two most recent RMP compliance audits were completed on 1/28/08 and 5/5/04. It is noted that the 1/28/08 audit was done eight months later than three-years after the 5/5/04 audit. **The facility should ensure that RMP compliance audits are conducted at least every three-years, as required by 40 CFR 68.79(a).**

# ITEM(S) OF CONCERN

- A significant quantity of ice was observed accumulating on the manual valve on the suction header for AHU#1 in the assembly penthouse. Ice accumulation increases the weight load on equipment, increasing potential for equipment damage. Additionally, severe ice accumulation prevents inspection of valves, piping, and instrumentation and limits access to equipment. IIAR Bulletin No. 109 (Minimum Safety Criteria for a Safe Ammonia Refrigeration System) states: *"Ice formations that could endanger refrigerant piping of other components should be removed and the condition(s) that cause the ice build-up corrected." (Section 4.10.7).* **The facility should evaluate defrost procedures or other operating practices to minimize the occurrence and quantity of ice accumulation, in accordance with good operating practices.**

# RECOMMENDATIONS

- The facility should add the phone number of the National Response Center (NRC) to the call-down list during an accidental release of anhydrous ammonia. The phone number for the National Response Center is 1-800-424-8802. Please note that the NRC, Local Emergency Planning Committee (LEPC), and State Emergency Response Commission (SERC) must be notified upon knowledge of ammonia releases of 100-pounds and greater.